

NOTE

A Note on the Host Specificity of the Mirid
Slaterocoris pallipes (Knight)

This note describes laboratory experiments undertaken to confirm the host range of *Slaterocoris pallipes* (Knight) which was identified as a potential biological control agent for the weed *Baccharis halimifolia* L. (Asteraceae: Astereae) in Australia.

The Nearctic genus *Slaterocoris* Wagner contains 46 species (Knight 1970. Iowa State Journal of Science 45: 233-267). From the little host information available (Kelton 1968. Canadian Entomologist 100: 1121-1137; Knight 1970), *Slaterocoris* spp. appear to be almost exclusively confined to the Asteraceae with most species using only one plant genus.

Slaterocoris pallipes is a univoltine specialist species of *B. halimifolia*, occurring from New York in the north to as far south as North Carolina (Wheeler 1981. Proceedings of the Entomological Society of Washington 83: 520-523). I have more recently (30th June 1983) collected it near Gainesville, Florida, and this is a new state record. Wheeler (1981) also described the life stages of the insect and indicated that the egg is the overwintering stage.

Thirty two plant species (Table 1) were selected in an experiment conducted at the North American Field Station during the summer of 1984 to confirm the known host range of this insect. Most were representatives of Asteraceae, particularly Astereae. Two replications of each species were used. Twelve potted plants (of 12 species but including *B. halimifolia*) were randomly placed within each 53 × 69 × 84 cm gauzed cage. Wooden planks were placed above the pots so that the foliage and stems of the plants protruded through small holes in these planks. Six cages were so prepared in a shade house so that each plant species was exposed

twice, except for *B. halimifolia* (6 exposures) and *B. neglecta* (4 exposures).

Quantities of *S. pallipes* were collected from *B. halimifolia* at either Williamsburg, Virginia, or Toms River, New Jersey, and sent to Temple, Texas. During the 3-5 days in transit, the insects were given access to bouquets of foliage.

Immediately upon arrival in Temple, approximately fifty insects (including both adults and nymphs) were introduced into each cage by scattering them over the wooden planks. It was intended to use oviposition, feeding, and counts of the insect as criteria for evaluating its host specificity. Approximately every second day the insects seen on each plant were counted. After the insects had died, the cages were dismantled. The amount of feeding damage was assessed and the stems dissected to count any eggs deposited.

Approximately 56% of all insect sitings were on *B. halimifolia* with *B. neglecta* accounting for an additional 25%. The other 30 plant species therefore accounted for less than 19%, and no one plant species appeared to be particularly favored. All *B. halimifolia* and *B. neglecta* plants showed signs of severe attack and there was little difference between these two species. The feeding damage was as described and illustrated by Wheeler (1981) with leaves, particularly young growth, turning chlorotic and being spotted with black excrement. No other plant showed signs of attack by *S. pallipes*. Oviposition did not occur on any plant, including the two *Baccharis* spp.

Slaterocoris pallipes was imported into quarantine facilities at the Alan Fletcher Research Station, Brisbane, in 1985. Although the insect successfully oviposited in

Table 1. Plant species against which *S. pallipes* was tested.

AMARANTHACEAE: *Gomphrena globosa* L.
 APOCYNACEAE: *Vinca minor* L.
 ASTERACEAE: Tribe Astereae: *Aster noviae-angliae* L., *Baccharis halimifolia* L., *Baccharis neglecta* Britt., *Callistephus chinensis* (L.) Nees, *Chrysanthamnus nauseosus* (Pall.) Britt., *Conyza canadensis* L., *Dimorphotheca aurantiaca* Hort., *Gymnosperma glutinosum* (Spreng.) Less, *Haplopappus* sp., *Solidago altissima* L.; tribe Heliantheae: *Dahlia pinnata* Cav., *Gaillardia pulchella* Foug., *Helianthus annuus* L., *Iva frutescens* L., *Parthenium hysterophorus* L., *Xanthium strumarium* L. (sensu lato), *Zinnia elegans* Jacq.; tribe Tageteae: *Tagetes lucida* Cav.; tribe Cynareae: *Carthamus tintoris* L., *Cynaria scolymus* L.; tribe Eupatorieae: *Ageratum houstonianum* Mill.; tribe Cichorieae: *Lactuca sativa* L.; tribe Anthemidae: *Chrysanthemum maximum* Raymond.
 CARYOPHYLLACEAE: *Dianthus* sp.
 FABACEAE: *Vicia faba* L.
 LAMIACEAE: *Salvia splendens* Sellow.
 MALVACEAE: *Gossypium hirsutum* L.
 POACEAE: *Zea mays* L.
 SOLANACEAE: *Lycopersicon esculentum* L.
 VERBENACEAE: *Lantana camara* L., *Verbena* sp.

potted *B. halimifolia* plants in this facility, nymphs failed to emerge the next year. A second importation was made in 1986 with similar results. Because *S. pallipes* could not be successfully reared in the laboratory, it was rejected as a biocontrol agent and no further work on it was undertaken.

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